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BEFORE THE

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, D C

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In re:

AMENDMENT OF SECTION 73.622(b) TABLE OF ALLOTMENTS DTV BROADCAST STATIONS CONWAY, SOUTH CAROLINA	)	MM Docket No.

TO: Chief, Allocations Branch
Policy and Rules Division

PETITION FOR RULEMAKING

South Carolina Educational Television Commission ("SCETV"), licensee of noncommercial educational station WHMC-TV, NTSC Channel *23, Conway, South Carolina, by its attorneys and pursuant to the Commission's Rules, hereby requests that the Commission institute a rulemaking proceeding to amend Section 73.622(b) of its Rules to substitute DTV Channel *9 in lieu of DTV Channel *58 as WHMC-TV's paired digital channel in Conway, South Carolina. The substitution of digital channels would serve the public interest. It would replace SCETV's out-of-core DTV allotment with an in-core channel, providing substantial relief to SCETV in the DTV transition process. As the attached technical documentation demonstrates, WHMC-DT's proposed operation on Channel *9 would not cause impermissible interference to any other stations

SCETV proposes the following amendment to Section 73.622(b) of the Commission's Rules:

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Community	Present	Proposed
Conway, South Carolina	*58	*9

In support of this petition. SCETV submits the following:

A. Channel Change will Provide Relief from SCETV's Enormous Transition and Post-Transition Burden

SCCTV. a publicly funded agency of the State of South Carolina. operates a statewide network consisting of eleven television stations in South Carolina: WHMC-TV/DT, Conway. the subject of the instant petition tor rulemaking; WRLK-TV/DT, Columbia; WNTV-TV/DT, Greenville; WITV-TV/DT. Charleston; WEBA-TV/DT, Allendale; WJPM-TV/DT, Florence; WJWJ-TV/DT, Beaufort; WNEH-TV/DT, Greenwood: WNSC-TV/DT, Rock Hill; WRET-TV/DT, Spartanburg; and WRJA-TV/DT, Sumter.

The burden on SCETV in the digital television transition process is enormous. It has already devoted substantial resources to digital conversion throughout its network, having spent to date more than $19 million on DTV, with over $12 niillion spent on planning. construction. and equipment for DTV transmission facilities. Even with this substantial investment in DTV. SCETV has encountered serious obstacles in its transition to digital and has had to request extensions of the DTV buildout deadline for nine of its stations. As noted in SCETV's request for extension of the WHMC-DT construction permit. filed February 28. 2003 (File No. BEPEDT-20030228ALK), SCETV is unable to construct the DTV facilities for WHMC-DT by the May 1. 2003 deadline due to a combination of factors, including untoreseeable delays in securing state funding necessary to finalize construction of WHMC-DT and other remaining SCETV digital facilities.

SCETV explained in the CP extension request that SCETV had fully intended to build WHMC-DT on its allotted out-of-core Channel *58, and then use funds from a Public Telecommunications Facilities Program ("PTFP") grant to move the station to an in-core channel at the end of the transition. Unfortunately, in October 2002, SCETV learned that the requested PTFP grant had been denied, with no guarantee of renewed federal appropriations for DTV construction in the years to come. This loss of funding for the eventual transition to an in-core channel has forced SCETV, given its status as a licensee of eleven public TV stations relying on scarce public and charitable resources for DTV construction and operations, to reconsider its plans for WHMC-DT.

SCETV believes that the funds currently available for construction of WHMC-DT could be put to better use by building the station now on an in-core channel, thereby eliminating the need for a costly facility change at the end of the transition. Shortly after receiving notice of the denial of PTFP funding, in December 2002, SCETV ordered an engineering study to find a suitable in-core channel position for WHMC-DT. SCETV's consultant has determined that VHF Channel *9 could accommodate the station's DTV signal, consistent with FCC requirements for an allotment at Conway.

The FCC has expressed a desire to afford noncommercial broadcasters "every opportunity to participate in the transition to digital television." *Fifth Report and Order*, 12 FCC Rcd at 12852, ¶ 104. SCETV welcomes the opportunity to finalize its transition to DTV broadcasting as quickly as possible on WHMC-DT, so that it may provide in this new format the "high quality programming service noncommercial stations have provided to American viewers over the years." *Id.*

Thus, SCETV proposes io substitute DTV Cliannel *9 instead of DTV Channel *58 at Conway, South Carolina. As demonstrated in thc attached Engineering Statcmcnt prepared by SCETV's consulting engineer, Kcssler & Gehman. DTV Channel *9 will work at the proposed transmitter site, assuming a power/height combination of 20 kw / 250 m HAAT.

B. The Proposed Change to the Table of Allotments Will Serve the Public Interest

The proposed change to the DTV Table of Allotments will serve the public interest by enhancing SCETV's ability to meet its DTV transition obligations and provide high quality noncommercial educational digital programming throughout the State of South Carolina. In particular, the proposed substitution will help SCETV to meet its enormous obligations in the DTV transition process by avoiding the need for SCETV to pay twice to construct DTV facilities for WHMC in Conway – once on Channel *58 and a second time on some later in-core channel. It would be an undue financial hardship on SCETV to construct and operate WHMC-DT out-of-core only to bc required to eventually rebuild the station facility on an in-core channel, especially when an in-core channel is lawfully available lor SCETV's use. In addition, the extra cost of building WHMC-DT on Channcl *58 (as opposed to Channel *9), and operating it on that channel through the transition, would itself be significant.

SC'ETV estimates that the cost to build the transmission facility tor WHMC-DT on Channel *58 would be about $960,000. The cost to reconfigure it later to another UHF in-core channel would be about $70.000, assuming that a wideband UHF antenna and transmission line is still in place from the original huildout). The re-build on another UHF channel would require a new channel mask filter and channel combiner, as well as re-tuning and proofing of the transmitter. Thus, the total cost to build end re-build WHMC-DT transmission facilities would he about $1,030,000. However, the total cost to build WHMC-DT on Channel *9 from the start

would be only about $550,000. representing a savings of about $480,000. The lower original buildout cost on Cliannel *9 results from a less expensive transmitter and the ability to re-use an existing 3 inch transmission linc already on the WHMC-DT tower lo feed the Channel *9 antenna, and of course thcrc is no re-build cost. Moreover, there would be a greatly reduced long-tern1 operating cost savings in electricity by operating during the transition on Channel *9 rather than Channel *58

These financial considerations and the value of an in-core allotment arc of'critical importance to SCETV in constructing and operating WHMC-DT within SCETV's financial constraints. The $480.000 plus operating cost savings resulting from the reallocation of SCETV's paired DTV channel from *58 to *9 are especially significant when considering that SCETV has ten additional DTV stations in its state network (as well as its eleven analog stations) to opcratc and maintain throughout the DTV transition. By necessity. as a public agency and noncommercial educational licensee operating a statewide radio and television network with a limited budget. particularly in these difficult economic times for the State of South Carolina and public television in general, SCETV must be a careful steward of its resources, even while it seeks lo offer the highest quality of public broadcasting service.

C. The Proposed Change to the Table of Allotments Will Not Result in Impermissible Interference with Surrounding Stations

Under Section § 73.622(f)(5) of the Commission Rules. an existing licensee with DTV allotment may seek a change in the station's channel if' the licensee demonstrates that the change "complies with the technical criteria in §73.623(c), and thereby will not result in new interference exceeding the *de minimis* standard set forth in that section . . ." In accordance with these rules. SCETV requests that the Commission substitute DTV Channel *9, at a power/height combination of 20 kw / 250 m HAAT. As the engineering statement accompanying this petition

demonstrates, the proposed operation of WHMC-DT on Channel *9 in this manner would in fact result in no impermissible interference to any other station

D. Conclusion

For all of these reasons. SCETV requests that the Commission institute a rulemaking proceeding Lo amend Section 73.622 of its Rules to substitute DTV Channel *9 lor DTV Channel *58 as the paired channel for WHMC in Conway, South Carolina. If the Commission grants this petition and modifies the DTV Table of Allotnients accordingly. SCETV is committed to applying for and constructing WHMC-DT on Channcl *9

Respectfully Submitted,

SOUTH CAROLINA EDUCATIONAL TELEVISION COMMISSION

By: Todd D. Gray

Todd D. Gray
Margaret L. Miller
Barry S. Persh

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Marcli 18, 2003

PETITION FOR RULE MAKING TO AMEND THE DTV TABLE OF ALLOTMENTS TO SUBSTITUTE CHANNEL 9 FOR THE ALLOTTED OUT-OF-CORE CHANNEL 58 FOR THE DIGITAL TELEVISION BROADCAST STATION WHMC-DT CONWAY, SOUTH CAROLINA

(SOUTH CAROLINA EDUCATIONAL TELEVISION COMMISSION)

KESSLER & GEHMAN ASSOCIATES, INC.
TELECOMMUNICATIONS CONSULTING ENGINEERS

20030224

Prepared by William T. Godfrey

507 N.W. 60th Street, Suite C
Gainesville, Florida 32607

ENGINEERING TECHNICAL STATEMENT PREPARED BY WILLIAM T. GODFREY OF THE FIRM KESSLER AND GEHMAN ASSOCIATES, INC., TELECOMMUNICATIONS CONSULTING ENGINEERS IN CONNECTION WITH THE SOUTH CAROLINA EDUCATIONAL TELEVISION COMMISSION'S PETITION FOR RULE MAKING TO AMEND THE DTV TABLE OF ALLOTMENTS IN ORDER TO SUBSTITUTE THE PROPOSED DTV **VHF CHANNEL 9 FOR THE ALLOTTED OUT-OF-CORE DTV UHF CHANNEL 58 AT THE LICENSED CONWAY, SOUTH CAROLINA** SITE.

The firm Kcsslcr and Gehman Associatcs, Inc , has been retained by the South Carolina Educational Television Commission (SCETVC), Columbia South Carolina in order to prepare engineering studies and the engineenng portion of a Petition for Rule Making (PFRM) to amend the DTV Table of Allotments in order to substitute the proposed DTV VHF Channel 9 for the allotted out-ofcore DTV UHF Channel 58 at the licensed Conway, SC site

Discussion

The SCETVC is the licensee of clcven NTSC broadcast stations and has been assigned a paired DTV channel for each of the eleven stations WHMC-DT was the only station out of the elcvcn SCETVC stations to be allotted an out-of-core channel

In 2002, the FCC reallocated the 698-746 MHz spectrum band (Lower 700 MHz Band) that had been allocated to television Channels 52-59. While Congress did not specify the amount of spectrum to be reclaimed beyond the Upper 700 MHz Band, the Commission determined that all broadcasters could operate with digital transmission systems in Channels 2-51 after the transition. Thus the Commission reallocated Channels 52-59 for new services in the Lower 700 MHz proceeding. The FCC adopted allocation and service rules for the Lowcr 700 MHz Band in order to reclaim and license this spectrum in accordance with statutory mandate. The FCC encourages voluntary bard clearing in both the Upper and Lowcr 700 MHz Bands.

The SCETVC respectfully requests authorization to substitute DTV Channel 9 in lieu of the allotted out-of-core DTV Channel 58 for the following reasons: 1) WHMC-DT's allotted channel is in the lower 700 MHz band (Channcl 58); 2) the FCC encourages voluntary band clearing of the lower 700 MHz band; *3)* improved signal coverage; **4)** reduced support structure upgrade expenses; 5) equipment and operational savings; and *6)* continue digital VHF operation on the proposed channel after the DTV transition has ceased.

Kcssler and Gehman Associatcs **(KGA)** initially conducted a detailed spacing study and determined that DTV Channcl 9 was one of the best options to consider for detailed Longley-Rice interference studies. KGA performed detailed interfcrcncc studies using DTV Channel 9 for WHMC-DT at the antenna height radiation ccntcr authorized in the DTV construction permit (BPEDT20000501AGN). It was determined that WMC-DT could opcratc on DTV Channcl 9 without causing above ***de minimis***[1] interference to one or more applicable surrounding station(s).

[1] De *minimis* interference is defined as interference to such stations affecting less than two percent of the population they serve. Where a station is receiving interference to between eight and ten percent *of* he population it would otherwise serve, additional interference is considered de *minimis* if it does not cause interference to the station to exceed the ten-percent threshold.

Granting DTV Channel 9 for WHMC-DT would serve the public interest significantly with huge savings in tax dollars ranging from the substantial amount of money saved during the DTV purchasing/building phase to the magnitude of electrical savings that low power VHF transmitters offer over high power UHF transmitters.

The objective of the enclosed DTV PFRM is to amend the DTV Table of Allotments as follows: 1) substitute DTV Channel 9 for the allotted out-of-core DTV Channel 58; 2) change effective radiated power (ERP) from authorized 85.0 kW to 20.0 kW using a nondirectional antenna; and 3) change the antenna radiation center (WC) height above average terrain (HAAT) from the assigned 245.0 meters to 250.2 meters.

The SCETVC is licensed to operate WHMC-TV on UHF, NTSC Channel 23(+) with an ERP of 1740 kW at an antenna height R/C of 250.0 meters AAT using a nondirectional antenna. The assigned principal community for WHMC is Conway, SC and the file number for WHMC-TV is BLET19820118KE.

According to the initial allotment plan and reference coordinates (DTV Table of Allotments) set forth in Appendix B of the *Sixth Report and Order* in MM Docket 87-268, FCC 97-115, adopted April 3, 1997, WHMC is allotted om-of-core UHF, DTV Channel 58 at an antenna height R/C of 250.0 meters M T and an ERP of 85.1 kW in order to replicate its licensed UHF, Channel 23 Grade B Contour.

The SCETVC has been granted a construction permit for out-of-core DTV Channel 58 (BPEDT-20000501AGN), which authorizes WHMC to operate with an ERP of 85.0 kW at an antenna height radiation of 245.0 meters AAT using a nondirectional antenna. Specifically, the SCETVC requests authorization to substitute WHMC-DT Channel 9 in lieu of the WMC-DT Channel 58 construction permit, and take any other steps necessary to enable WHMC to construct and ultimately operate its digital facilities on Channel 9.

Transmitter

It is proposed to top-mount a Dielectric model TF-10HT horizontally polarized, nondirectional, DTV antenna on the existing WHMC support structure owned by the SCETVC. The tower is registered with the FCC and has a registration number of 1059179. The support structure is located 6.5 miles NNW of Conway, SC. The proposed antenna height radiation center would be 245.8 meters above ground level (AGL). The proposed antenna's highest point would extend to 255.2 meters AGL and the overall height of the structure would remain 256.4 meters AGL as depicted in Exhibit 3's elevation view of the support structure

Interference Studies

The Longley-Rice studies were performed using a Sun Microsystems SPARC 5 computer work station loaded with the FCC's TV Interference and Spacing Analysis software (Exhibit 13) which complies with the FCC mandated application-processing guidelines for digital television. This software is in accordance with the standards established in the FCC Public Notice #3060-0841 pertaining to DTV studies and DTV application preparation dated August 10, 1998.

Initial spacing studies, which considered DTV allotments (ALLOT), DTV/NTSC licenses (LIC), DTV/NTSC construction permits (CP), DTV/NTSC applications (APP) and Class A/Class A-eligible low power television (LPTV) stations in the applicable areas surrounding Conway, SC revealed that VHF

Channel 9 was a possible option for the SCETVC station. After the spacing studies were completed additional studies were conducted to verify that the proposed station met the principal community coverage requirements of §73.625(a) of the FCC Rules. Exhibit 11 depicts the proposed WHMC-DT F(50,90) 36 dBuV/m noise limited contour and verifies that the proposed station's noise limited contour would fully encompass the assigned principal community of Conway, SC. After it was determined that the principal community coverage requirement was met, KGA performed detailed interference studies on WHMC-DT Channel 9 to all applicable surrounding stations using the terrain dependent Longley-Rice, point-to-point propagation algorithm which is detailed in the FCC's Office of Engineering and Technology Bulletin Number 69 (OET 69).

Stations that may be a source of interference are identified as a function of distance and channel relationship. The criteria used to evaluate interference in Appendix B of the Sixth Report and Order is depicted in the "Culling of Undesired Stations" Table. The following stations fell within the culling distance of undesired stations and were considered stations that could potentially be affected by the proposed station (Exhibit 13):

- WGHP HIGH POINT, NC
- WOLO-DT COLUMBIA, SC
- WVAN-TV SAVANNAH, GA
- WSOC-TV CHARLOTTE, NC
- WNCT-TV GREENVILLE, NC
- WIS COLUMBIA, SC

Spacing violations were found between the following stations:

- WSOC-TV CHARLOTTE, NC
- WNCT-TV GREENVILLE, NC

The interference studies verified that the proposed WHMC-DT Channel 9 station would not cause above de minimis interference to WSOC-TV or WNCT-TV.

The proposed facility did not violate the following: 1) FCC Monitoring stations; 2) West Virginia quiet zone; 3) Table Mountain; 4) Canadian mileage spacing; 5) Mexican mileage spacing; or 6) AM broadcast stations.

There are no spacing violations or contour overlaps to Class A stations. The proposed station would cause interference to W49AN but W49AN is a secondary LPTV station and does not require protection from the proposed WHMC-DT Channel 9 facility.

Exhibit 13 is a 48-page detailed Longley-Rice interference study which verifies that the proposed WHMC-DT Channel 9 facility would not cause above de minimis interference to any applicable surrounding DTV or NTSC station(s) and would not cause interference to any Class A stations. Since the Longley-Rice studies are calculated using the same type computers and the same software as the FCC, Exhibit 13 verifies that the proposed WHMC-DT facility could operate using DTV Channel 9 without causing unacceptable interference to any applicable surrounding stations. Since the public interest would be well served with a larger coverage area using less tax dollars and since the lower 700 MHz band would be cleared well before the end of the DTV transition, it is clear that DTV Table of Allotments should be

amended to substitute the proposed DTV Channel **9** for WHMC-DT in lieu of the allotted out-ofcore DTV Channel 58.

Exhibits

Exhibits 1 and 2 represent WHMC-DT's administration data, antenna and antenna structure specifications.

Exhibit *3* depicts the profile view ofthe proposed antenna on the antenna structure with all the appropriate elevations.

Exhibits 4 and 5 display the azimuth pattern and the azimuth pattern tabulation respectivcly

Exhibits *6* and 7 display the elevation pattern and the elevation pattern tabulation respectively

Exhibits **8** and **9** display the ERP/dBk pattern and tabulation respectively.

Exhibit 10 depicts the location of the proposed WMC-DT site on a 7.5-Minute **(Series)** Topographic map.

Exhibit 11 depicts the proposed WHMC-DT coverage contour, boundaries of the principal community to be served, and the proposed transmitting location with radials every 45".

Exhibit 12 depicts the proposed WHMC-DT Channel **9** facility and the allotted WHMC-DT Channel 58 facility.

Exhibit 13 is a detailed interference study of proposed WHMC-DT Channel **9** station to all applicable surrounding stations.

The FCC Form 340dtv application enclosed has been submitted as an exhibit for informational purposes only. The application provides details useful to the FCC and is being submitted as an exhibit for that reason only.

Environmental Impact

The proposed construction will have no significant environmental impact as defined in §1.1307 **of** the FCC Rules. The DTV transmitter, 3-inch **(50-ohm)** transmission line and antenna system **will** produce an ERP of 20 kW. Assuming that the maximum lobe of radiation is oriented at the base of the tower, it will produce a power density six feet above the ground of 0.012 mW/cm^2. This is only 1.24% **of** the maximum permissible exposure **(MPE)** authorized by the American National **Standards** Institute **(ANSI).** Since the proposed operation **of** WMC-DT Channel **9** will not exceed 5.0% of the **MPE** limit for population/uncontrolled at any point on the ground, WHMC-DT is not considered to be a "significant contributor" to the RF exposure environment pursuant to OET Bulletin 65, Edition **97-01.** Therefore, contributions of exposure from other sources were not accounted **for** in this analysis. It is safe to conclude that the emissions will **he** insignificant and well within the maximum allowable requirements.

If other antennas are placed on the tower in the future, the applicant will cooperate with those users by reducing or completely terminating the power to the antenna when maintenance workers are in danger from the electromagnetic radiation emanating from the antenna.

Certification

The applicant accepts full responsibility for the elimination of any objectionable interference including that caused by intermodulation to facilities in existence or authorized prior to the grant of this application.

This technical statement was prepared by William T. Godfrey, Telecommunications Consultant with Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida and has been working in the field of radio and television broadcast consulting since 1998. He graduated from the University of North Florida with a Bachelor of *Arts* degree in Criminal Justice and a minor in Mathematics and received a Commission in the Aviation Branch of the United States Army in 1993. As a Professional in the field of Telecommunications and as a Captain in the United States Army, he states under penalty of *Perjury* that the information contained in this report is true and correct to the best of his knowledge and belief.

KGA

KESSLER AND GEHMAN ASSOCIATES, INC.

WILLIAM T. GODFREY
Telecommunications Consultant

27 February, 2003

Federal Communications Commission
Washington, D. C. 20554

Approved by OMB
3060-0034

FOR FCC USE ONLY

FCC 340

APPLICATION FOR CONSTRUCTION PERMIT FOR RESERVED CHANNEL NONCOMMERCIAL EDUCATIONAL BROADCAST STATION

FOR COMMISSION USE ONLY
FILE NO.

Section I - General Information

1. Legal Name of the Licensee/Permittee

SOUTH CAROLINA EDUCATIONAL TV COMMISSION

Mailing Address

1101 GEORGE ROGERS BLVD.

City	State or Country (if foreign address)	ZIP Code
COLUMBIA	SC	29201

Telephone Number (include area code)	E-Mail Address (if available)
803-737-3486	hgriffin@scetv.org

Call Sign	Facility Identifier
WHMC	61004

2. Contact Representative (if other than licensee/permittee)

WILLIAM T. GODFREY

Firm or Company Name

KESSLER AND GEHMAN ASSOCIATES, INC.

Telephone Number (include area code)	E-Mail Address (if available)
352-332-3157	godfreyw@bellsouth.net

3. Is this application being filed in response to a window? ☐ Yes ☒ No

If Yes. specify closing date and/or window number:

4. Application Purpose

- ☐ New station
- ☐ Major Change in licensed facility
- ☐ Minor Change in licensed facility
- ☐ Major Modification of construction permit
- ☒ Minor Modification ofconstruction permit
- ☐ Major Amendment to pending application
- ☐ Minor Amendment to pending application

a. File number of original construction permit: _____ ☐ NIA

b. Service Type: ☐ FM ☐ TV ☒ DTV

c Community of License - City: CONWAY State: SC

d. Facility Type: ☒ Main ☐ Auxiliary

If an amendment, submit as an Exhibit a listing by Section and Question Number of the portions of the pending application that are being revised.

Exhibit No.

SECTION VII- DTV Engineering

Complete Questions **1-5** of the Certification Checklist and provide all data and information for the proposed facility, as requested in Technical Specifications, **Items 1-13.**

Certification Checklist: **A** correct answer of "Yes" to all of the questions below will ensure an expeditious grant ***of*** a construction permit. However. if the proposed facility is located within **the** Canadian ***or*** Mexican borders, coordination of the proposal **under** the appropriate treaties may he required prior to grant of the application. ***An*** answer of "No" will require additional evaluation of the applicable information in this form before a construction permit *can* be **granted.**

I. The proposed DTV facility complies with 47 C.F.R. Section 73.622 in the following respects:

(a) It will operate on the **DTV** channel for this station as established in 47 C.F.R. **Section** 73.622. ☐ Yes ☒ No

(b) It will operate from a transmitting antenna located within 5.0 km **(3.1** miles) of the DTV reference site for this station as established in 47 C.F.R. Section 73.622. ☒ Yes ☐ No

(c) It will operate with an effective rddiated power (ERP) and antenna height above average terrain **(HAAT)** that do not exceed the DTV reference ERP **and HAAT** for this station **as** established in 47 C.F.R. Section 73.622. ☐ Yes ☒ No

2. The proposed facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RF radiation exceeding the applicable health and safety guidelines, and therefore will not come within 47 C.F.R. Section 1.1307. ☒ Yes ☐ No

Applicant must **submit** the Exhibit called for in Item 13.

3. Pursuant to 47 C.F.R. Section 73.625, the DTV coverage contour of the proposed facility will encompass the allotted principal community. ☒ *Yes* ☐ Nn

4. The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied or are not applicable. ☒ Yes ☐ No

5. The antenna structure to he used by this facility has been registered by the Commission and will not requue reregistration to support h e proposed antenna, OR the FAA has previously determined that the propoed structure will not adversely effect safety in air navigation and this structure qualities for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the **FAA** pursuant to 47 C.F.R. Section 17.7. ☒ Yes ☐ No

SECTION VII - DTV Engineering

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

Channel Number: DTV **9** Analog TV, if any 23

Zone: ☐ I ☒ II ☐ III

Antenna Location Coordinates: (NAD 27)

33 ° 56 ' 58 " ☒ N ☐ S Latitude

79 ° 06 ' 31 " ☐ E ☒ W Longitude

Antenna Structure Registration Numher: 1OS9179

☐ Not applicable ☐ FAA Notification Filed with FAA

Antenna Location Sitc Elevation Above Mcan Sea Level: 24.3 meters

Overall Tower Height Above Ground Level: 256.4 meters

Height of Radiation Center Above Ground Level: 245.8 meters

Height of Radiation Center Abovc Avcrnge Terrain: 250.2 meters

Maximum Effective Radiated Power (average powcr): 20.0 kW

0 Antenna Specifications:

a. Manufacturer: DIELECTRIC | Model: TF-1OHT

h. Electrical Beam Tilt: 0.75 degrees ☐ Not Applicable

c. Mechanical Beam Till: _____ degrees toward azimuth _____ degrees True ☒ Not Applicable

Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). Exhibit No. _____

d. Polorization: ☒ Horizontal ☐ Circular ☐ Elliptical

TECH BOX

c Directional Anlenna Relauvc Field Values [X] Not applicable (Nondirectional)

Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value
0		60		120		180		240		300	
10		70		130		190		250		310	
20		80		140		200		260		320	
30		90		150		210		270		330	
40		100		160		220		280		340	
50		110		170		230		290		350	
Additional Azimuths											

If a directional antenna is proposed, the requirements of 47 C.F.R. Section 73.625(c) must he satisfied. Exhibit required — Exhibit No. N/A

11. Does the proposed facility satisfy the interference protection provisions of 47 C.F.R. Section 73.623(a)? (Applicable only if Certification Checklist Items 1(a), (b), or (c) are answered "No.") [X] Yes [ ] No

If "No," attach as an Exhibit justification therefor. including a summary of any related previously granted waivers. — Exhibit No. N/A

12. If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefor. (Applicable only if Certification Checklist Item 3 is answered "No.") — Exhibit No. N/A

13. Environmental Protection Act. Submit in an Exhibit the following: — Exhibit No. Eng. Statement

a. If Certification Checklist Item 2 is answered "Yes," a brief explanation of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken lo limit RF rddiation exposure IO the public and to persons authorized access to the tower site.

By checking "Yes" IO Certification Checklist Item 2. the applicant also certifies that it. in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

If Certification Checklist Item 2 is answered "No," an Environmental Assessment as required by 47 C.F.R. Section 1.1311.

PREPARER'S CERTIFICATION ON PAGE 8 MUST BE COMPLETED AND SIGNED.

Section VI1 – **Preparer's Certification**

I certify that I have prepared Section VII (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Vame WILLIAM T. GODFREY	Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER
Signature	Date **02/24/2003**
Mailing Address 507 NW 60TH **STREET. SUITE** C	
City **GAINESVILLE**	State or Country (if **foreign** address) **FL** **ZIP *Code*** **32607**
Telephone Number (include area code) 352-332-3157	F-Mail Address (if available) godfreyw@bellsouth net

WILLFUL FALSE STATEMEMS OH THIS FORM ARE PUNISHABLE BY FINE ANWOR IMPRISONMENT (U S CODE, TITLE 18, SECTION 1001), ANDMR REVOCATION OF ANY STATIONLICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U S CODE. TITLE 47, SECTION 503).

WHMC-DT
CONWAY, SOUTH CAROLINA

ENGINEERING SPECIFICATIONS

A. ***Transminer Site:***
Geographic coordinates:

North Latitude	**33° 56' 58"**
West Longitude	***790*** **06' 31"**

Transmitter Site Address: ***6.5*** **miles NNW of Conway, SC**

B. ***Main Studio Site Address:*** **1101 George Rogers Boulevard**
Columbia, South Carolina 29201

C. ***Proposed Facility:***

DTV Channcl	Number	**9**
	Frequency	**186-192 MHz**

D. ***Antenna Height:***

Height of Sitc Abovc Mcan Sea Lcvcl (AMSL)	**24.3 M**
Overall Hcight of Structure Above Ground (including all appurtenances)	**256.4 M**
Overall Height of Structure Above Mean Sea Level (including all appurtenances)	**280.7 M**
Hcight of Sitc Above Avcrage Terrain	**4.4 M**
Antcnna Height Radiation Center (R/C) Above Ground	**245.8 M**
Antcnna Height R/C Abovc Mean Sea Level	**270.1 M**
Average of All Non-Odd Radials	**19.9 M**
Antenna Height R/C Above Avcrage Terrain	**250.2 M**

E. ***System Parameters – Horizontal Polarization:***

Transminer Power Required	**2.63 kW**
Maximum Power Input to Antenna	**2.02 kW**
Total System Loss	**1.15 dB**
Transmission Line Efficiency	***76.7%***
Maximum Antenna Gam in Bcam Maximum	**9.96 dB**
Maximum Antenna Gain in Horizontal Plane	**9.64 dB**
Maximum Effective Radiated Power	**13.01 dBk**
In Bcam Maximum	**20.00 kW**
Maximum Effective Radiated Power	**12.69 dBk**
In Horizontal Plane	**18.58 kW**

WHMC-DT CHANNEL 9
CONWAY, SOUTH CAROLINA

DATA FOR PROPOSED DTV
NONDIRECTIONAL TRANSMITTING ANTENNA

A. ***Antenna:*** Dielectric Model TF-10HT, Horizontally Polarized, Nondirectional, Top-mount Antenna.

B. ***Electrical Beam Tilt:*** 0.75°

C. ***Mechanical Beam Tilt:*** None.

D. ***Maximum Power Gain*** — **Horizontal Polarization**

Maximum:	9.9 (9.96 dB)
Horizontal:	9.2 (9.64 dB)

E. ***Length (H_2):*** 62.5 feet (19.1 meters) not including appurtenances.

F. ***Average Power DTV:*** 2.63 kW

G. ***Null Fill:*** 15.1%

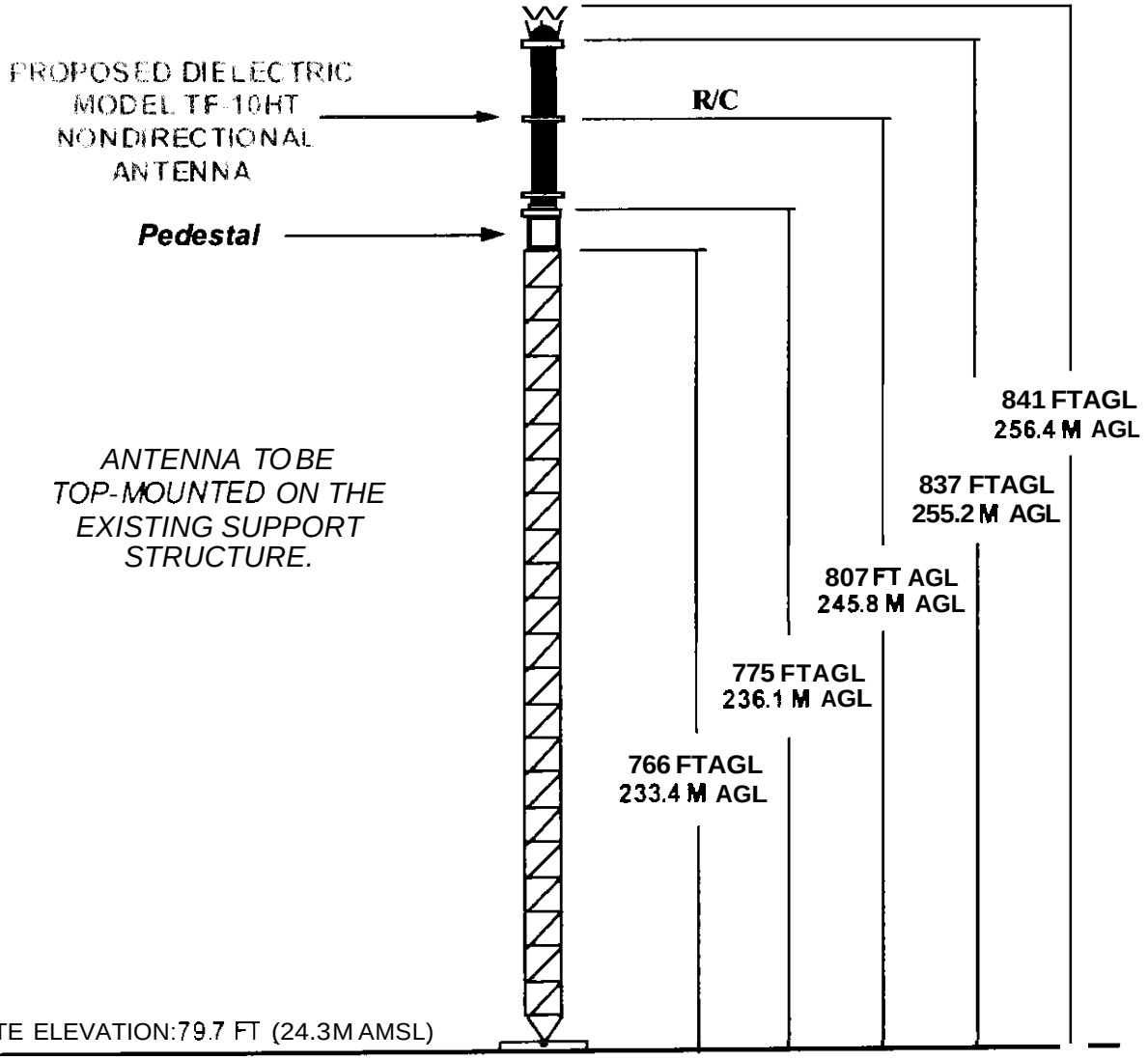
H. ***Transmission Line:*** 3 1/8" 50-ohm Rigid.

I. ***Transmission Line Loss:*** 0.134 dB/100-feet

J. 860 feet

K. ***Transmission Line Attenuation:*** 1.15 dB

ANTENNA STRUCTURE ELEVATION VIEW



OVERALL HEIGHT AGL:	256.4 M
OVERALL HEIGHT AMSL:	280.7 M
RADIATION CENTER AGL:	245.8 M
RADIATION CENTER AMSL:	270.1 M
AVERAGE OF NON-ODD RADIALS:	E M
RADIATION CENTER HAAT:	250.2 M

COORDINATES: (NAD 27)

N. LATITUDE 33" 56' 58"

W. LONGITUDE 79" 06' 31"

Antenna Structure Registration Number: 1059179

NOTE: NOT TO SCALE

KESSLER & GEHMAN
TELECOMMUNICATIONS CONSULTING ENGINEERS
507 N.W. 60th Street, Suite C
Gainesville, Florida 32607

WHMC-DT CHANNEL 9

CONWAY, SOUTH CAROLINA

20030224 EXHIBIT 3

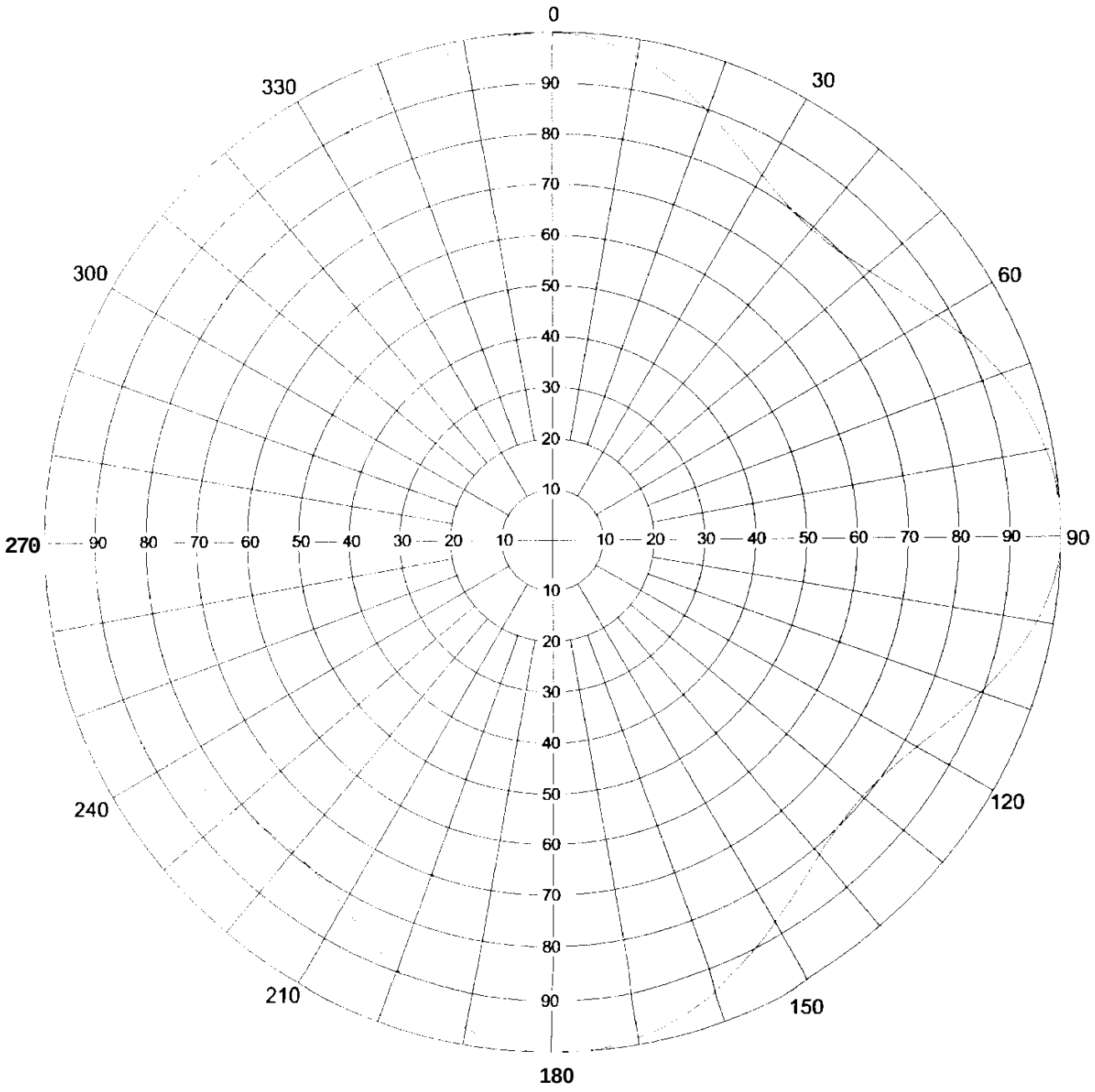
Exhibit No.
Exhibit 4

Dielectric

Date	**24 Feb 2003**		
Call Letters	**WHMC-DT**	Channel	**9**
Location	**Conway, SC**		
Customer	**SCETV Commission**		
Antenna Type	**TF-10HT**		

AZIMUTH PATTERN

Gain	**1.20 (0.79 dB)**	Frequency	**189 MHz**
Calculated / Measured	**Calculated**	Drawing #	**TF-O**



Remarks: Exhibit 4

Exhibit No.
Exhibit 5

Dielectric

Date 24 **Feb** 2003
Call Letters **WHMC-DT** Channel 9
Location **Conway, SC**
Customer **SCETV Commission**
Antenna Type **TF-IOHT**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing# **TF-O**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	1.000	45	0.798	90	1.000	135	0.798	180	1.000	225	0.798	270	1.000	315	0.798
1	0.999	46	0.801	91	0.999	136	0.801	181	0.999	226	0.801	271	0.999	316	0.801
2	0.998	47	0.804	92	0.998	137	0.804	182	0.998	227	0.804	272	0.998	317	0.804
3	0.996	48	0.807	93	0.996	138	0.807	183	0.996	228	0.807	273	0.996	318	0.807
4	0.994	49	0.811	94	0.994	139	0.811	184	0.994	229	0.811	274	0.994	319	0.811
5	0.990	50	0.815	95	0.990	140	0.815	185	0.990	230	0.815	275	0.990	320	0.815
6	0.987	51	0.820	96	0.987	141	0.820	186	0.987	231	0.820	276	0.987	321	0.820
7	0.982	52	0.825	97	0.982	142	0.825	187	0.982	232	0.825	277	0.982	322	0.825
8	0.978	53	0.830	98	0.978	143	0.830	188	0.978	233	0.830	278	0.978	323	0.830
9	0.972	54	0.836	99	0.972	144	0.836	189	0.972	234	0.836	279	0.972	324	0.836
10	0.967	55	0.842	100	0.967	145	0.842	190	0.967	235	0.842	280	0.967	325	0.842
11	0.961	56	0.848	101	0.961	146	0.848	191	0.961	236	0.848	281	0.961	326	0.848
12	0.954	57	0.854	102	0.954	147	0.854	192	0.954	237	0.854	282	0.954	327	0.854
13	0.948	58	0.861	103	0.948	148	0.861	193	0.948	238	0.861	283	0.948	328	0.861
14	0.941	59	0.867	104	0.941	149	0.867	194	0.941	239	0.867	284	0.941	329	0.867
15	0.934	60	0.874	105	0.934	150	0.874	195	0.934	240	0.874	285	0.934	330	0.874
16	0.926	61	0.881	106	0.926	151	0.881	196	0.926	241	0.881	286	0.926	331	0.881
17	0.919	62	0.888	107	0.919	152	0.888	197	0.919	242	0.888	287	0.919	332	0.888
18	0.911	63	0.895	108	0.911	153	0.895	198	0.911	243	0.895	288	0.911	333	0.895
19	0.904	64	0.901	109	0.904	154	0.901	199	0.904	244	0.901	289	0.904	334	0.901
20	0.896	65	0.908	110	0.896	155	0.908	200	0.896	245	0.908	290	0.896	335	0.908
21	0.889	66	0.915	111	0.889	156	0.915	201	0.889	246	0.915	291	0.889	336	0.915
22	0.881	67	0.921	112	0.881	157	0.921	202	0.881	247	0.921	292	0.881	337	0.921
23	0.873	68	0.928	113	0.873	158	0.928	203	0.873	248	0.928	293	0.873	338	0.928
24	0.866	69	0.934	114	0.866	159	0.934	204	0.866	249	0.934	294	0.866	339	0.934
25	0.859	70	0.940	115	0.859	160	0.940	205	0.859	250	0.940	295	0.859	340	0.940
26	0.852	71	0.946	116	0.852	161	0.946	206	0.852	251	0.946	296	0.852	341	0.946
27	0.845	72	0.952	117	0.845	162	0.952	207	0.845	252	0.952	297	0.845	342	0.952
28	0.839	73	0.957	118	0.839	163	0.957	208	0.839	253	0.957	298	0.839	343	0.957
29	0.832	74	0.962	119	0.832	164	0.962	209	0.832	254	0.962	299	0.832	344	0.962
30	0.827	75	0.967	120	0.827	165	0.967	210	0.827	255	0.967	300	0.827	345	0.967
31	0.821	76	0.971	121	0.821	166	0.971	211	0.821	256	0.971	301	0.821	346	0.971
32	0.816	77	0.976	122	0.816	167	0.976	212	0.816	257	0.976	302	0.816	347	0.976
33	0.812	78	0.980	123	0.812	168	0.980	213	0.812	258	0.980	303	0.812	348	0.980
34	0.808	79	0.983	124	0.808	169	0.983	214	0.808	259	0.983	304	0.808	349	0.983
35	0.804	80	0.986	125	0.804	170	0.986	215	0.804	260	0.986	305	0.804	350	0.986
36	0.801	81	0.989	126	0.801	171	0.989	216	0.801	261	0.989	306	0.801	351	0.989
37	0.798	82	0.992	127	0.798	172	0.992	217	0.798	262	0.992	307	0.798	352	0.992
38	0.796	83	0.994	128	0.796	173	0.994	218	0.796	263	0.994	308	0.796	353	0.994
39	0.795	84	0.996	129	0.795	174	0.996	219	0.795	264	0.996	309	0.795	354	0.996
40	0.794	85	0.997	130	0.794	175	0.997	220	0.794	265	0.997	310	0.794	355	0.997
41	0.794	86	0.999	131	0.794	176	0.999	221	0.794	266	0.999	311	0.794	356	0.999
42	0.794	87	0.999	132	0.794	177	0.999	222	0.794	267	0.999	312	0.794	357	0.999
43	0.795	88	1.000	133	0.795	178	1.000	223	0.795	268	1.000	313	0.795	358	1.000
44	0.796	89	1.000	134	0.796	179	1.000	224	0.796	269	1.000	314	0.796	359	1.000

Remarks: Exhibit 5

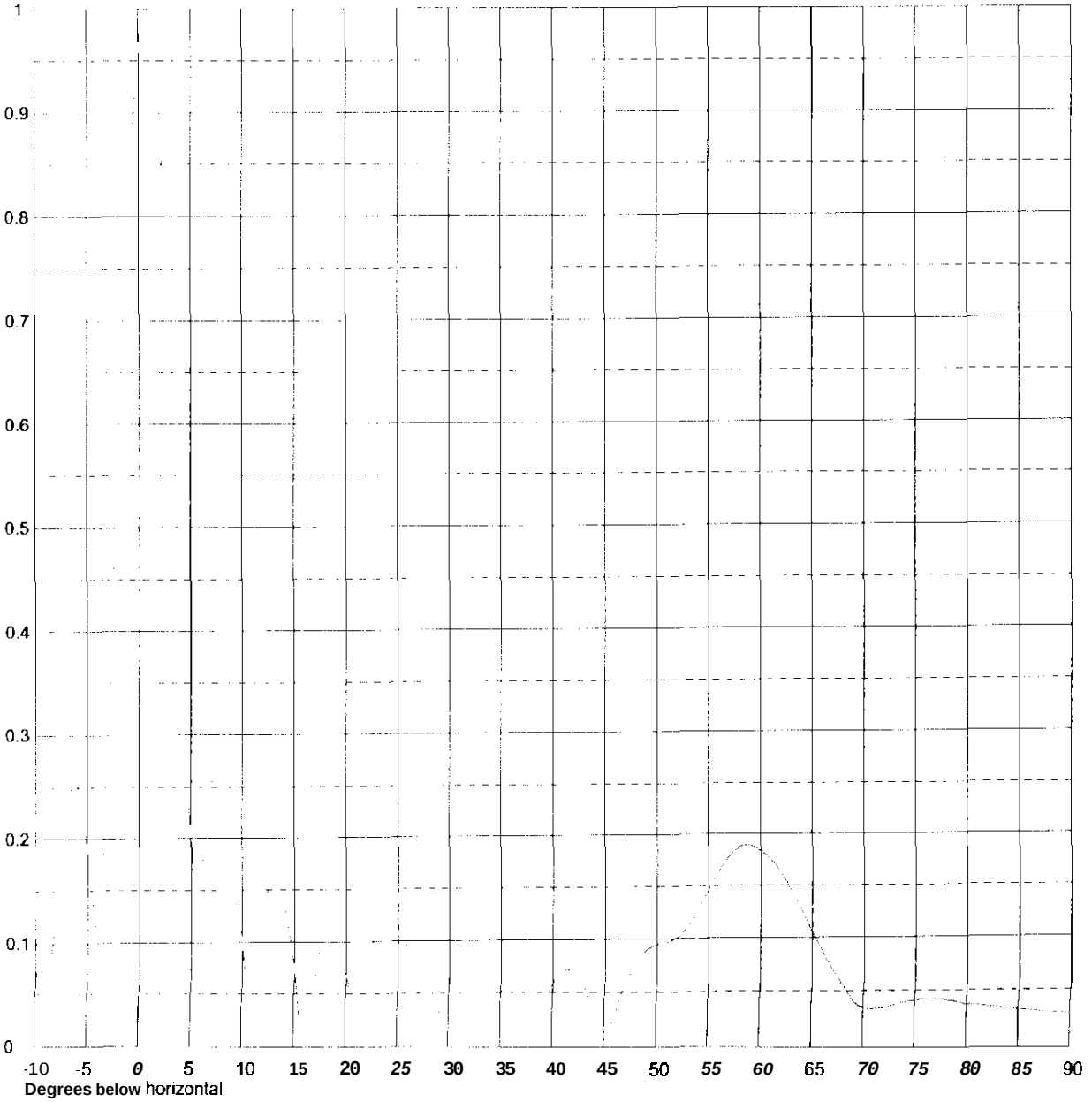
Exhibit No.
Exhibit6

Dielectric

Date	24 **Feb** 2003		
Call Letters	**WHYC-DT**	Channel	**9**
Location	**Conway, SC**		
Customer	**SCETV Commission**		
Antenna Type	**TF-IOHT**		

ELEVATION PATTERN

RMS Gain at Main Lobe	**9.9 (9.96 dB)**	Beam Tilt	**0.75 Degrees**
RMS Gain at Horizontal	**9.2 (9.64 dB)**	Frequency	**189.00 MHz**
Calculated / Measured	**Calculated**	Drawing #	**10S099075-90**



Remarks: Exhibit 6

Exhibit No.
Exhibit 7

Dielectric

Date	24 Feb **2003**		
Call Letters	WHMC-DT	Channel	9
Location	**Conway,** SC		
Customer	**SCETV Commission**		
Antenna Type	**TF-IOHT**		

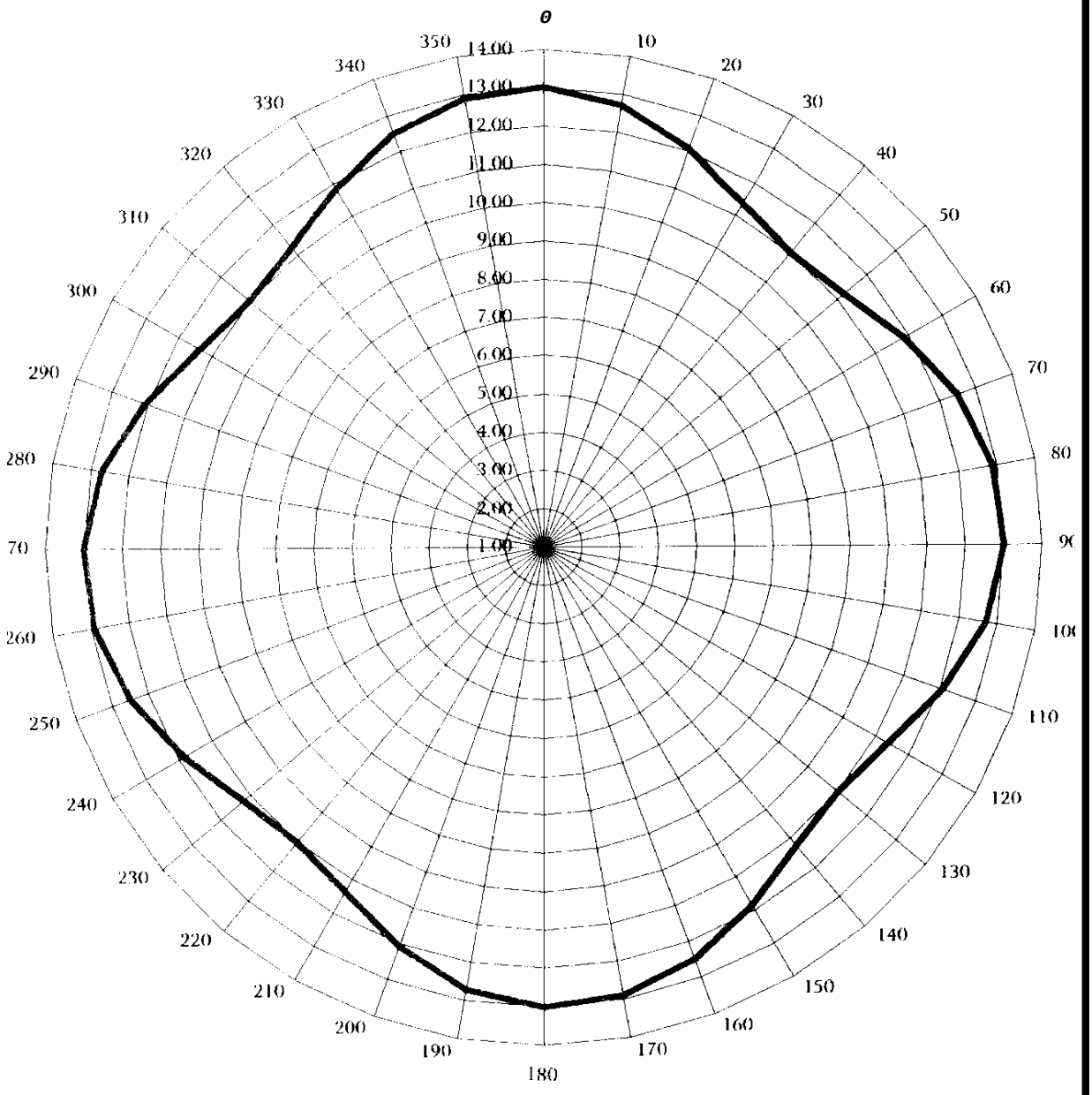
TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # **10S099075-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.081	2.4	0.826	10.6	0.053	30.5	0.025	51.0	0.097	71.5	0.037
-9.5	0.038	2.6	0.785	10.8	0.053	31.0	0.017	51.5	0.098	72.0	0.038
-9.0	0.032	2.8	0.741	11.0	0.062	31.5	0.010	52.0	0.101	72.5	0.039
-8.5	0.084	3.0	0.694	11.5	0.098	32.0	0.012	52.5	0.105	73.0	0.040
-8.0	0.139	3.2	0.644	12.0	0.130	32.5	0.021	53.0	0.111	73.5	0.041
-7.5	0.189	3.4	0.593	12.5	0.151	33.0	0.032	53.5	0.119	74.0	0.042
-7.0	0.228	3.6	0.541	13.0	0.159	33.5	0.041	54.0	0.127	74.5	0.043
-6.5	0.250	3.8	0.488	13.5	0.154	34.0	0.047	54.5	0.137	75.0	0.043
-6.0	0.252	4.0	0.435	14.0	0.136	34.5	0.051	55.0	0.147	75.5	0.044
-5.5	0.232	4.2	0.383	14.5	0.108	35.0	0.052	55.5	0.156	76.0	0.044
-5.0	0.191	4.4	0.333	15.0	0.073	35.5	0.049	56.0	0.165	76.5	0.044
-4.5	0.138	4.6	0.286	15.5	0.035	36.0	0.042	56.5	0.173	77.0	0.044
-4.0	0.117	4.8	0.242	16.0	0.008	36.5	0.033	57.0	0.179	77.5	0.044
-3.5	0.180	5.0	0.205	16.5	0.040	37.0	0.022	57.5	0.184	78.0	0.043
-3.0	0.294	5.2	0.175	17.0	0.070	37.5	0.010	58.0	0.187	78.5	0.043
-2.8	0.345	5.4	0.157	17.5	0.091	38.0	0.010	58.5	0.189	79.0	0.042
-2.6	0.398	5.6	0.151	18.0	0.103	38.5	0.023	59.0	0.189	79.5	0.042
-2.4	0.452	5.8	0.156	18.5	0.106	39.0	0.036	59.5	0.187	80.0	0.041
-2.2	0.507	6.0	0.169	19.0	0.099	39.5	0.048	60.0	0.184	80.5	0.040
-2.0	0.560	6.2	0.186	19.5	0.085	40.0	0.058	60.5	0.180	81.0	0.040
-1.8	0.613	6.4	0.204	20.0	0.067	40.5	0.065	61.0	0.175	81.5	0.040
-1.6	0.664	6.6	0.222	20.5	0.049	41.0	0.070	61.5	0.169	82.0	0.039
-1.4	0.714	6.8	0.237	21.0	0.043	41.5	0.071	62.0	0.162	82.5	0.039
-1.2	0.760	7.0	0.249	21.5	0.055	42.0	0.069	62.5	0.154	83.0	0.038
-1.0	0.804	7.2	0.259	22.0	0.075	42.5	0.063	63.0	0.145	83.5	0.038
-0.8	0.844	7.4	0.265	22.5	0.095	43.0	0.055	63.5	0.136	84.0	0.037
-0.6	0.880	7.6	0.268	23.0	0.112	43.5	0.044	64.0	0.126	84.5	0.037
-0.4	0.913	7.8	0.267	23.5	0.122	44.0	0.032	64.5	0.116	85.0	0.036
-0.2	0.940	8.0	0.263	24.0	0.127	44.5	0.018	65.0	0.106	85.5	0.036
0.0	0.963	8.2	0.256	24.5	0.125	45.0	0.008	65.5	0.096	86.0	0.036
0.2	0.980	8.4	0.245	25.0	0.117	45.5	0.016	66.0	0.086	86.5	0.035
0.4	0.992	8.6	0.233	25.5	0.105	46.0	0.031	66.5	0.077	87.0	0.035
0.6	0.999	8.8	0.217	26.0	0.089	46.5	0.045	67.0	0.069	87.5	0.034
0.8	1.000	9.0	0.200	26.5	0.073	47.0	0.057	67.5	0.061	88.0	0.034
1.0	0.996	9.2	0.181	27.0	0.057	47.5	0.068	68.0	0.054	88.5	0.034
1.2	0.986	9.4	0.161	27.5	0.043	48.0	0.077	68.5	0.048	89.0	0.034
1.4	0.972	9.6	0.139	28.0	0.035	48.5	0.084	69.0	0.043	89.5	0.033
1.6	0.952	9.8	0.118	28.5	0.033	49.0	0.089	69.5	0.040	90.0	0.033
1.8	0.927	10.0	0.097	29.0	0.033	49.5	0.092	70.0	0.038		
2.0	0.898	10.2	0.077	29.5	0.033	50.0	0.094	70.5	0.037		
2.2	0.864	10.4	0.062	30.0	0.030	50.5	0.096	71.0	0.036		

Remarks: Exhibit 7

ERP - dBk



DIELECTRIC MODEL TF-IOHT
PEAK DIRECTIONAL GAIN: 9.96dB
ELECTRICAL BEAM TILT: 0.75°
NONDIRECTIONAL ANTENNA

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WHMC-DT CHANNEL 9
CONWAY. SOUTH CAROLINA

20030224 EXHIBIT 8